

MATH 1000 IN-CLASS ACTIVITY 4

WEDNESDAY, JANUARY 24

Instructor: Alex Rice

Name:

These discussion topics were inspired by the Chapter 3 of *How Not to Be Wrong* by Jordan Ellenberg, titled “Everyone is Obese”.

The following are actual statistics for the first six seasons in the NBA career of Giannis Antetokounmpo of the Milwaukee Bucks.

Season	Age on Opening Day	Points Per Game
2013-14	18	6.8
2014-15	19	12.7
2015-16	20	16.9
2016-17	21	22.9
2017-18	22	28.2

When those data points are plotted, they are compellingly close to lying on one perfectly straight line (in fact, shockingly close). More specifically, the line that best approximates the data (via linear regression) has equation $y = 5.3x - 88.5$, where x is Giannis’s age on the first day of the season, and y is his average points per game for that season.

- (1) Using this linear regression as a model for the future, what would the model predict Giannis’s average to be at age 26? Age 36? Age 70?

- (2) Discuss the problems and limitations of this linear model. Compare Giannis's data with the data for the careers of NBA stars Kobe Bryant and LeBron James. What are some similarities and differences? What would linear regression have said about those players at age 23, as Giannis is now?